

1. Record Nr.	UNINA9910969167703321
Titolo	Computer aided methods in optimal design and operations / / editors, I. D. L. Bogle, J. Zilinskas
Pubbl/distr/stampa	Singapore ; ; Hackensack, NJ, : World Scientific Publishing, c2006
ISBN	9786611373252 9781281373250 1281373257 9789812772954 9812772952
Edizione	[1st ed.]
Descrizione fisica	1 online resource (238 p.)
Collana	Series on computers and operations research ; v. 7
Altri autori (Persone)	BogleI. D. L (Ian David Lockhart) ZilinskasJ <1973-> (Julius)
Disciplina	620/.00420285
Soggetti	Computer-aided design Mathematical optimization Control theory Chemical engineering - Mathematical models
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"Containing papers presented at the bilateral workshop by British and Lithuanian scientists, the book brings together researchers' contributions from different fields--chemical engineering including reaction and separation processes, food and biological production, as well as business cycle optimization, bankruptcy, protein analysis and bioinformatics"--P. [4] of cover.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Contents ; Preface ; Hybrid Methods for Optimisation ; 1. Introduction ; 2. Hybrid Methods for Optimisation ; 3. Embedded Hybrid Methods ; 4. Sequential Hybrid Methods ; 5. Illustrative Case Study ; 6. Discussion ; References ; An MILP Model for Multi-class Data Classification ; 1. Introduction 2. Problem Statement and Mathematical Formulation 3. Testing Procedure ; 4. An Iterative Solution Algorithm ; 5. Computational Results ; 6. Conclusions ; References ; Implementation

of Parallel Optimization Algorithms Using Generalized Branch and Bound Template	
; 1. Introduction	
2. General Branch and Bound Algorithm	3.
BB Algorithm Template	; 4. Conclusions
; References	; Application of Stochastic Approximation in
Technical Design	; 1.
Introduction	; 2. Formulation of the Optimization Problem
; 3. Computer Modelling	
4. Application of Order Statistic to Optimality Testing	
5. Computer Modelling	; 6. Conclusion
References	; Application of the Monte-Carlo Method to
Stochastic Linear Programming	
; 1. Introduction	; 2. Stochastic Differentiation and
Monte-Carlo Estimators	
3. Stochastic Procedure for Optimisation	
4. Statistical Testing of the Optimality Hypothesis	
; 5. Computer Study	; 6. Discussion and Conclusions
; References	; Studying the Rate of Convergence of the
Steepest Descent Optimisation Algorithm with Relaxation	
; 1. Introduction	
2. The General Quadratic Case	

Sommario/riassunto

This book covers different topics on optimal design and operations with particular emphasis on chemical engineering applications. A wide range of optimization methods - deterministic, stochastic, global and hybrid - are considered. Containing papers presented at the bilateral workshop by British and Lithuanian scientists, the book brings together researchers' contributions from different fields - chemical engineering including reaction and separation processes, food and biological production, as well as business cycle optimization, bankruptcy, protein analysis and bioinformatics. <i>Sample
